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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/601,377	07/27/2000	GERHARD SCHMITT	21551	2311

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EXAMINER

DUONG, THANH P

ART UNIT

PAPER NUMBER

1764

DATE MAILED: 08/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/601,377

Applicant(s)

SCHMITT, GERHARD

Examiner

Tom P. Duong

Art Unit

1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-19 is/are pending in the application.
- 4a) Of the above claim(s) 18 and 19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 2, 2006 has been entered.

2. Newly submitted claims 18 and 19 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: the method of separating the dust-laden product from its solid particles can be done thru a centrifugal separator that is located externally of the reactor other than a centrifugal separator located inside or surrounded by bed as claimed. Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 18 and 19 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:


(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 13-14 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mayers (2,958,298) in view of Priestley (4,021,184) and Flesch et al. (4,146,369). Regarding claims 13 and 17, Mayers discloses a reactor (12) for gasifying granular fuels (coal), the reactor (12) comprising: a casing (12); means including a reservoir (15) for holding the granular fuel and opening (via duct 15) into the casing for forming in the casing a fixed bed of the granular fuel having an upper surface; means for introducing oxygen-containing gasification medium (air via line 14) into the bed below the surface and the creation of a product gas containing hydrogen and carbon oxides rising from the surface of bed, whereby the product gas entrains particles upward from the surface out of the fixed bed (Col. 3, lines 1-10); at least one centrifugal separator (cyclones 16) in the casing for separating particles from the product gas, the separators (16) having an inlet opening (not described but inherent feature of a cyclone device; see cyclone inlets 38 of Priestley '184) above the fixed bed (11) of granular fuel for taking in the particle-laden product gas (heated gas exiting line 17), and a lower solid discharge opening (inherent feature of a cyclone and Col. 4, lines 62-65; see discharge conduits 43, 44 of Priestley '184). Mayers discloses fuel can be ignited by external means to initiate the combustion but fails to disclose the gasification medium moves up through the fixed bed with partial oxidation of the bed. Priestley teaches a plurality of gas inlets (fuel guns 31) penetrating the vessel wall and the gasification medium moves up thru the reactor chamber (Col. 2, lines 34-36). Thus, it would have been obvious in view of Priestley to one having ordinary skill in the art to modify the combustor of Mayers with gas inlets as taught by Priestley in order to initiate and facilitate combustion of the

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granular fuel. The recitation with respect to the centrifugal separator "partially embedded in the bed" does not impart structural limitation to the claimed invention and it would have been obvious in view of the applied references to one having ordinary skill in the art to partially submerge the separators into the bed based on intended use in view of the absence of unexpected results. Note, a claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claimed. See *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter 1987). With respect to the phrase "fixed bed", On page 1, third paragraph, of the original specification, Applicant merely discloses "As fuel, all kinds of coal are used including lignite and peat, to which various waste substances may be added." Mayers also discloses granular fuel source such as coal and lignite (Col. 4, lines 7-11) of the claimed invention and Priestley discloses the gasification or incineration of waste matter (Col. 1, lines 1-10). Alternatively, Flesch '369 makes it clear and teaches the concept of selecting a larger size gasification medium will allow the gassifier system to operate as a "fixed bed" and/or selecting a smaller size gasification medium will allow the gassifier to operate as a "fluidized bed" (Abstract and Col. 1, lines 8-30). Thus, it would have been obvious in view of Flesch to one having ordinary skill in the art to modify the apparatus of Mayers with the larger fuel size as taught by Flesch on the basis of suitability for intended use of operating a reactor as a "fixed bed". Note, "expression relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the

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apparatus claim". See *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969), and the manner of operating the device does not differentiate apparatus claim from the prior art "if the prior art apparatus teaches all structural limitations of the claim. See *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter 1987). Therefore, the apparatus of the applied references discloses the structure of the claimed invention and is capable to operating as a "fixed bed" or as a "fluidized bed" depending on the selection of the fuel type. Regarding claim 14, Priestley discloses all the limitations as described above and further discloses outlet lines of the separators open into an annular chamber  disposed in the upper portion of the reactor, which annular chamber communicates with the discharge duct.

4. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over applied reference (Mayers '298 in view of Priestley '184 and Flesch '369) as applied to claim 13 above, and further in view of Angel (2,433,726). The applied references fail to disclose a vertical annular wall is provided in the upper portion of the reactor and the inlet opening of the separator is disposed outside the portion of the reactor enclosed by the annular wall and the separator is disposed outside the portion enclosed by the annular wall. Angell teaches separators 22 are disposed outside the portion enclosed by the annular chamber (conical lower section 4), which has an inclined, vertical annular wall. Angell also shows the outlet line of the separators 22 is disposed in the header 25 (discharge duct) and the header 25 is communicated with the annular chamber (conical lower section 4) and the inlet opening of the separator is

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disposed outside the portion of the reactor enclosed by the vertical annular wall. The inclined, vertical annular wall isolates the vapors and gases (Col. 5, lines 26-35) in the header 25 from mixing with the incoming regenerating gas from line 13. Thus, it would have been obvious in view of Angell to one having ordinary skill in the art to modify the reactor of applied references with annular chamber having a vertical annular wall as taught by Angell in order to prevent intermixing of the vapors and gases from header with the incoming regenerating gas.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom P. Duong whose telephone number is (571) 272-2794. The examiner can normally be reached on 8:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Tom Duong
August 1, 2006

TD



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